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(54) Title: LIQUID PHASE PROCESS FOR POLYMERIZING OLEFINS

(57) **Abstract:** A solution process for polymerizing one or more α -olefins of the formula $\text{CH}_2=\text{CHR}$, where R is H or an alkyl radical $\text{C}_1\text{-C}_{18}$, to produce a polymer that is soluble in the reaction medium, comprising the steps of: - continuously polymerizing in a liquid phase the α -olefin in the presence of a catalyst system based on a transition metal compound to obtain a solution of polymer in the reaction medium; - the polymeric solution obtained from step a) is then mixed in one or more mixing stages with an aqueous mixture comprising one or more organic compounds having at least a hydroxy or epoxy group, said aqueous mixture having a dynamic viscosity at 30°C higher than 50 cP (centiPoise).